

200 205 220 - 230  $\{\lambda_2[b_i]\!\}$  $\{\lambda_2[b_{\pi(i)}]\}$ P(s) Sym. Prob 210 Π Computer 260 Y<sub>2</sub> 250  $\{\Lambda_1[b_{rr(i)}]\}$  $\{\Lambda_2[b_i]\}$ SMC Demod P(sly) Bit LLR  $\Pi^{-1}$ Channel Computer Decoder  $^{\mathsf{Y}}\mathsf{Nr}$  $\{\lambda_1[\bar{b}_{\pi(i)}]\}$  $\{\lambda_1[b_i]\}$ 240 Ĥ  $\{\Lambda_1[a_1]\}$ Hard Decision Coded Bits Decision Feedback П Channel

**Training Sequences** 

280

Estimator

- 270

FIG. 2

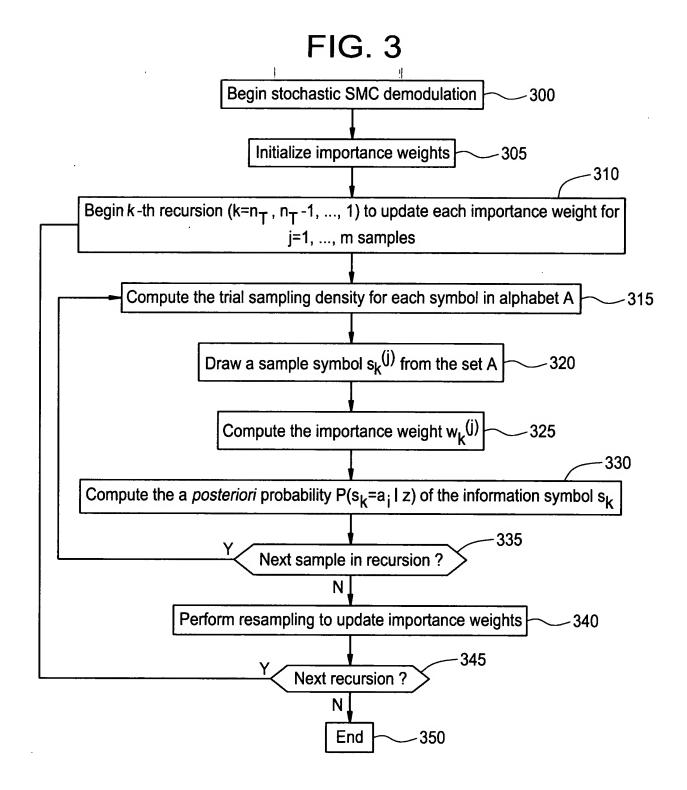


FIG. 4

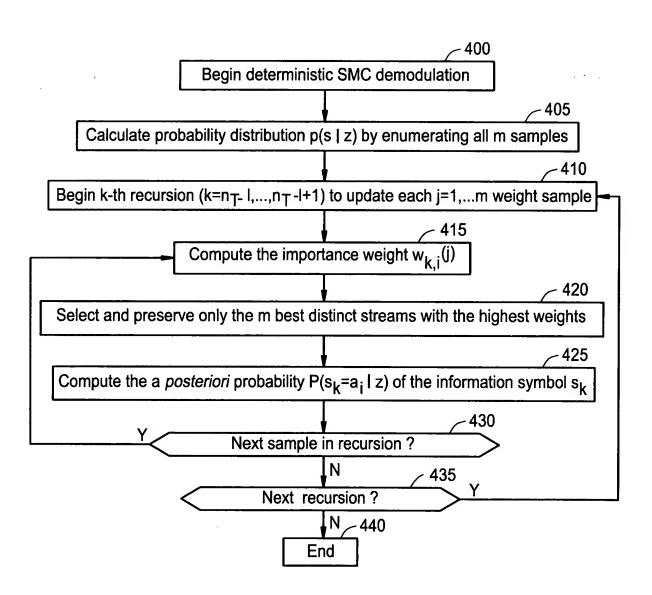
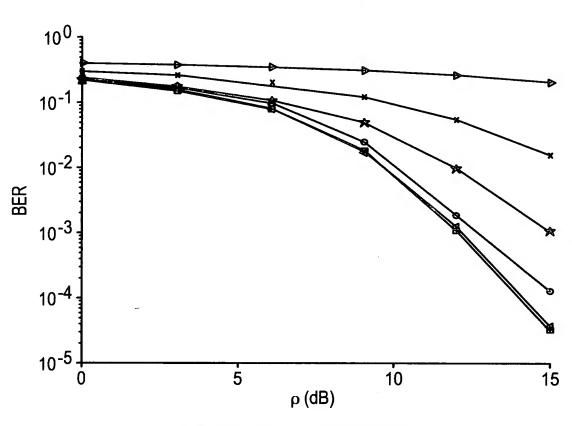


FIG. 5



- --- simple nulling/cancellation
- zero-forcing nulling/cancellation w/ordering
- → MMSE nulling/cancellation w/ordering
- -- stochastic SMC
- -- deterministic SMC
- → sphere decoding

FIG. 6
Stochastic SMC turbo receiver, pilot only

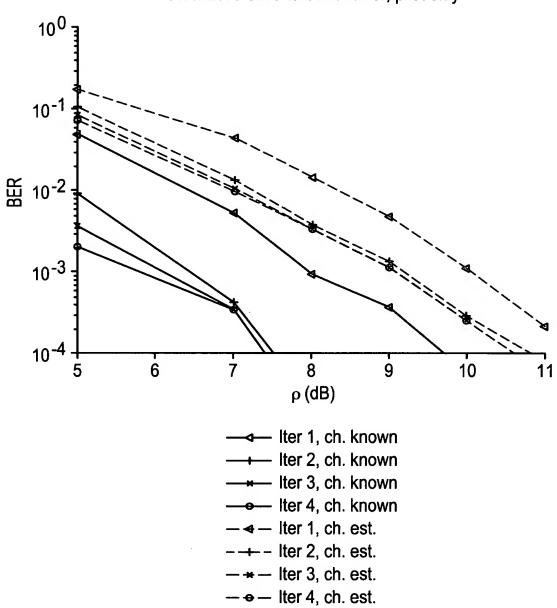


FIG. 7
Stochastic SMC turbo receiver, pilot + feedback

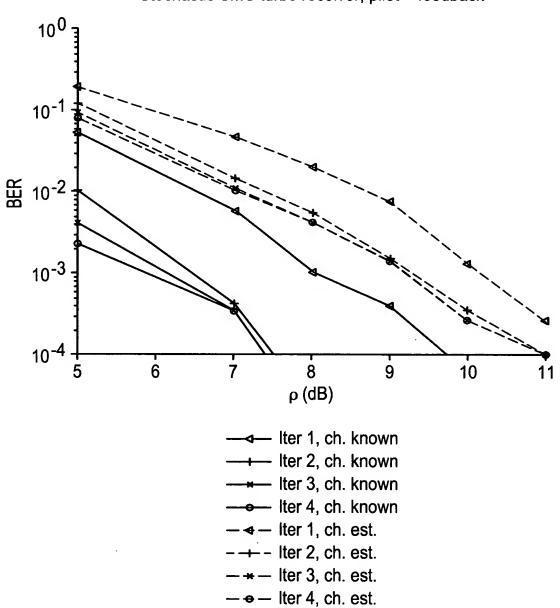
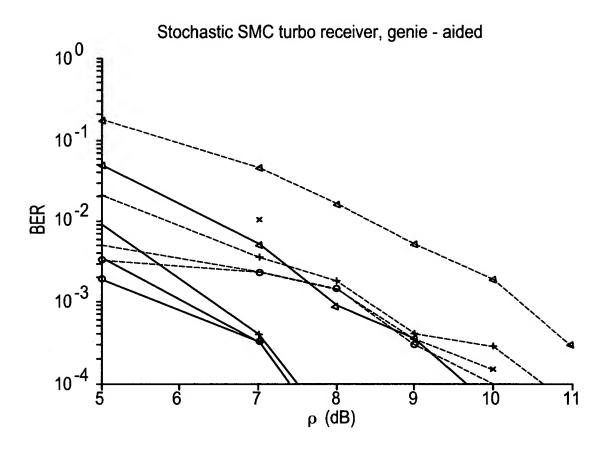


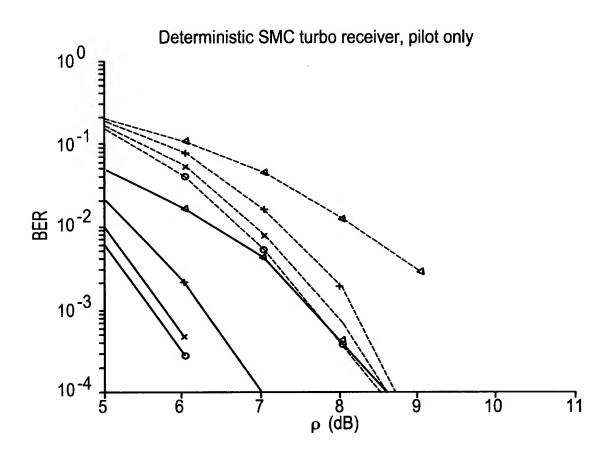
FIG. 8



- —

  Iter 1, ch. known
- -+- Iter 2, ch. known
- --- Iter 3, ch. known
- ter 4, ch. known
- ◄ Iter 1, ch. est.
- → Iter 2, ch. est.
- e Iter 4, ch. est.

FIG. 9



-
ter 1, ch. known

--- Iter 2, ch. known

--- Iter 3, ch. known

--- Iter 4, ch. known

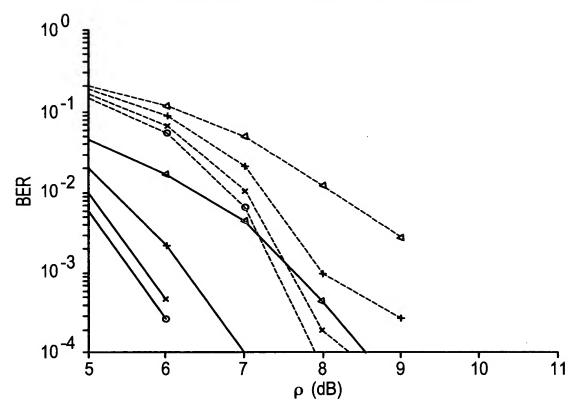
— ◄ — Iter 1, ch. est.

-\*- Iter 3, ch. est.

9/10

FIG. 10

Deterministic SMC turbo receiver, pilot + feedback



—

Iter 1, ch. known

---- Iter 2, ch. known

--- Iter 3, ch. known

— Iter 4, ch. known

— ◄— Iter 1, ch. est.

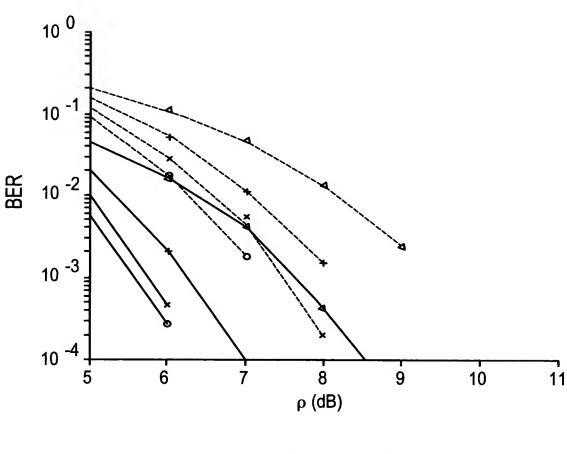
---- Iter 2, ch. est.

-- du lter 4, ch. est.

10/10

FIG. 11

Deterministic SMC turbo receiver, genie - aided



— ter 1, ch. known

---- Iter 2, ch. known

── Iter 3, ch. known

— ter 4, ch. known

— ◄ — Iter 1, ch. est.

---- Iter 2, ch. est.

— ★ — Iter 3, ch. est.

— • — Iter 4, ch. est.